# User Manual

# BandLuxe

## PR-30 Series

### HSPA+ WLAN Router

P/N: <64006300011>

BandLuxe™

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# *Introduction*

Thank you for your purchase of the PR-30 Series HSPA+ WLAN Pocket Router. This device is designed to access the Internet via 3.75G technology and share the Internet through a WLAN network. You can also share files with your friends with an optional microSD card. The PR-30 is portable and easy to use. Reading the user manual will help you make the most of your product.

## Features

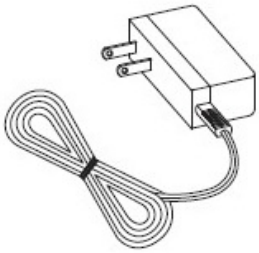
- HSPA+ WLAN Router
- WPS Support
- Supports up to 5 simultaneous wireless users
- Supports optional microSD card (up to 16 GB)
- Uplink speeds up to 5.7 Mbps
- Downlink speeds up to 21 Mbps
- Supports WLAN 802.11 b/g
- Operating Frequency Bands
    - UMTS/HSPA+: 900/2100 MHz
    - GSM: 850/900/1800/1900 MHz
- External 3G Antenna Port Ready

# *Getting Started*

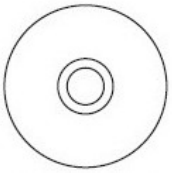
This chapter will provide a hardware overview of the PR-30 Series HSPA+ WLAN Pocket Router and step by step instructions on installing the device.

## Package Contents

PR-30 Series HSPA+ WLAN Router

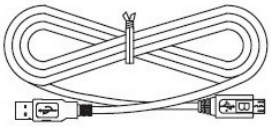


Power Adapter



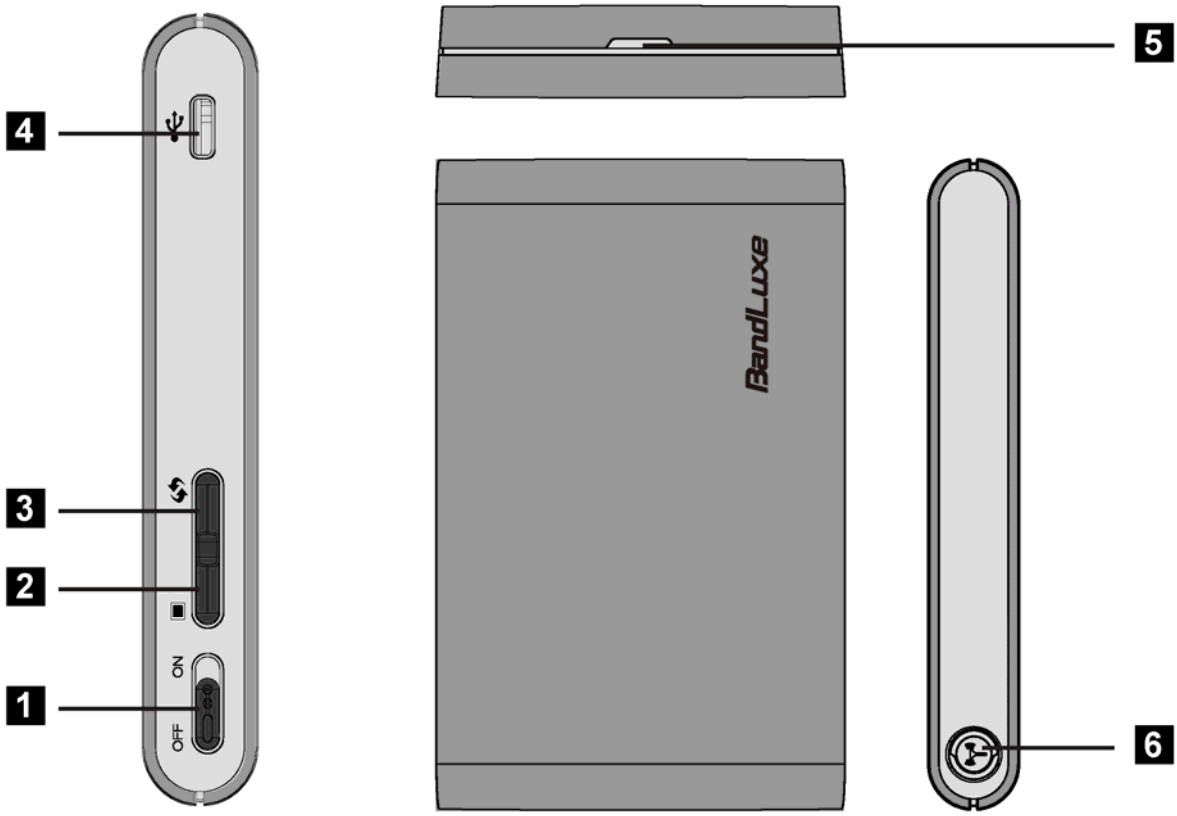
User Manual CD

Battery



USB Cable

# Hardware Overview




| | | |
|---|---|---|
| 1 | **ON/OFF switch** | Powers on/off the router. See “Powering On and Off”, p.10. |
| 2 | | Scrolls through device information on the LCD screen. See “Viewing Device Information”, p.11. |
| 3 | | Activates/deactivates WPS. See ”Enabling WPS”, p.14.<br>Enables/Disables WLAN. See “Enabling WLAN”, p. 14. |
| 4 | **USB port** | Connect the USB cable to the power adapter or a PC. See “USB Connectivity”, p.9. |
| 5 | **Back cover notch** | Use to open back cover. |
| 6 | **3G external antenna port** | You can attach a 3G external antenna (optional) for stronger signal strength. |

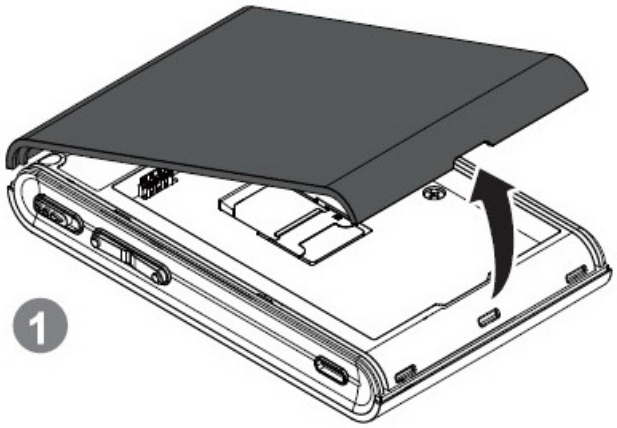
**Additional Button Functions:**

The screen automatically dims after a period of inactivity. To illuminate the screen again, press the or .

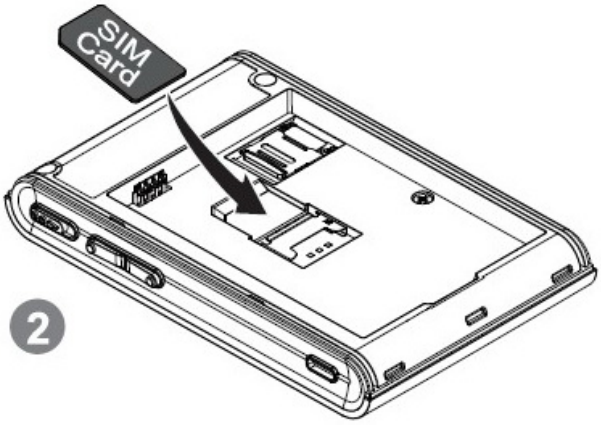
Hard Reset

To reset the device to factory default, press and hold both the and for at least 10 seconds.

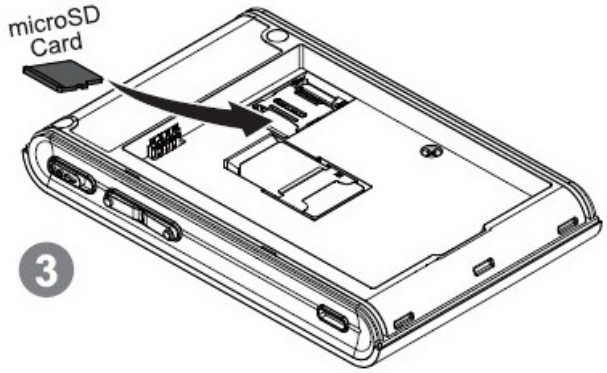
# Installation




**1.** Remove the back cover of the device.

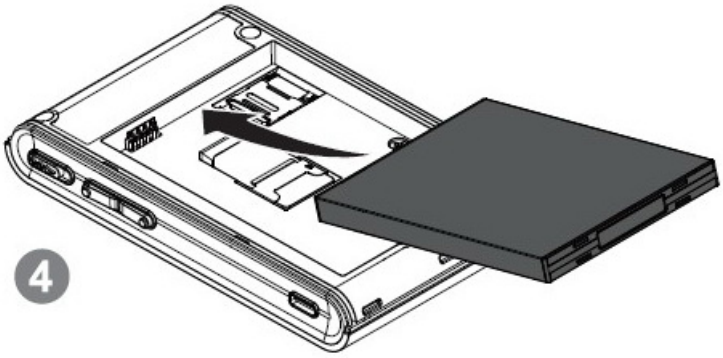



**2.** Insert the SIM card into the slot. Ensure the SIM card orientation matches the SIM card slot.

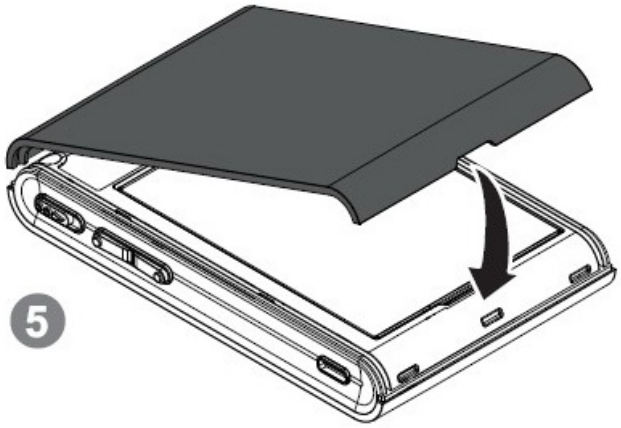



**3.** Insert the microSD card (optional) into the slot with the metal contacts facing down and towards the slot.

**NOTE**: The optional microSD card allows for file sharing between PCs on the same network when the PR-30 is connected via the USB cable/WLAN to the client . For more details, see “File Sharing”, p. 32.




**4.** Insert the battery. Ensure the battery contacts are properly oriented.




**5.** Replace the back cover of the device.

**6.** Connect the power adapter to the router. Plug the power adapter into a wall outlet to charge the battery.

**Warning:** To prevent the battery from overheating, do not charge the device for long periods of time while using.

**NOTE**: When the USB cable is connected to a PC, the cable provides 3.5G connectivity. The USB port may not provide sufficient charge to replenish battery power. To charge the battery, use the power adapter to connect the device to a wall outlet.

**7.** Link the router to your PC.

- To link the router to your PC via a wireless connection, in Microsoft Windows, go to *Control Panel* > *Network Connections*. Right click on the **Wireless Network Connection** and choose **View Available Wireless Networks**. Select the SSID and enter the password (see the network information card in the box) and click Connect.

- To link the router to your PC via a USB connection, connect the USB cable to the device and PC. Microsoft Windows automatically installs RNDIS drivers and establishes a local area connection, as indicated by the Local Area Connection icon on your PC.

To use the web-based interface to configure and manage the wireless settings, see “PR-30 Series Management”, p. 17.

# USB Connectivity

If the USB cable is connected between the device and a PC, the device establishes a local area connection, indicated by the Local Area Connection icon on the client PC, and a connection to the Internet via the user's mobile network connection, such as HSPA.

If the USB cable is not used, the device may function as a wireless router and/or an Internet access point.

As a wireless router, the PR-30 is capable of supporting up to 5 simultaneous wireless connections. In addition, the device allows users to share a single Internet connection.

If a microSD card is installed, the card may be used as a common storage space among the connected PCs. The PR-30 supports microSD cards up to 16GB. For more details, see “File Sharing”, p. 32.

| | USB | No USB |
|---|---|---|
| **Internet Access** | Yes | Yes |
| **Wireless connections** | No | 5 simultaneous |
| **File sharing** | Yes | Yes |

# Basic Functions

## *Powering On and Off*

To power the PR-30 on, slide the power switch located on the side of the chassis to the ON position. When the PR-30 is powered on, the screen displays a series of power-on animation.

## *Main Screen*

The Main Screen is the default display screen and provides a quick glance at the status of the PR-30.

| | |
|---|---|
| | Signal Strength |
| | Type of Radio Access Technology |
| | WLAN On/Off |
| | Radio Access Roaming On/Off |

| | |
|---|---|
| | Battery Level |
| | Subscriber's Network Operator |

## *Status Indicators*

The top of the screen may display the following icons, depending on the status of the device.

| | | | | | | |
|---|---|---|---|---|---|---|
| Signal Strength | Level 0 | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| Radio Access Network | GSM/GPRS | EDGE | UMTS | HSPA/HSPA+ | | |
| WLAN | On | Off | | | | |
| Roaming | On | Off | | | | |
| Battery | Level 0 | Level 1 | Level 2 | Level 3 | Full | Charging |

The Signal Strength icon indicates the relative strength of the radio signal from the nearest base station.

The Radio Access Network icon indicates the subscriber’s network mobile technology. It may vary from user to user and from region to region.

The WLAN icon indicates the whether the WLAN feature is enabled or disabled.

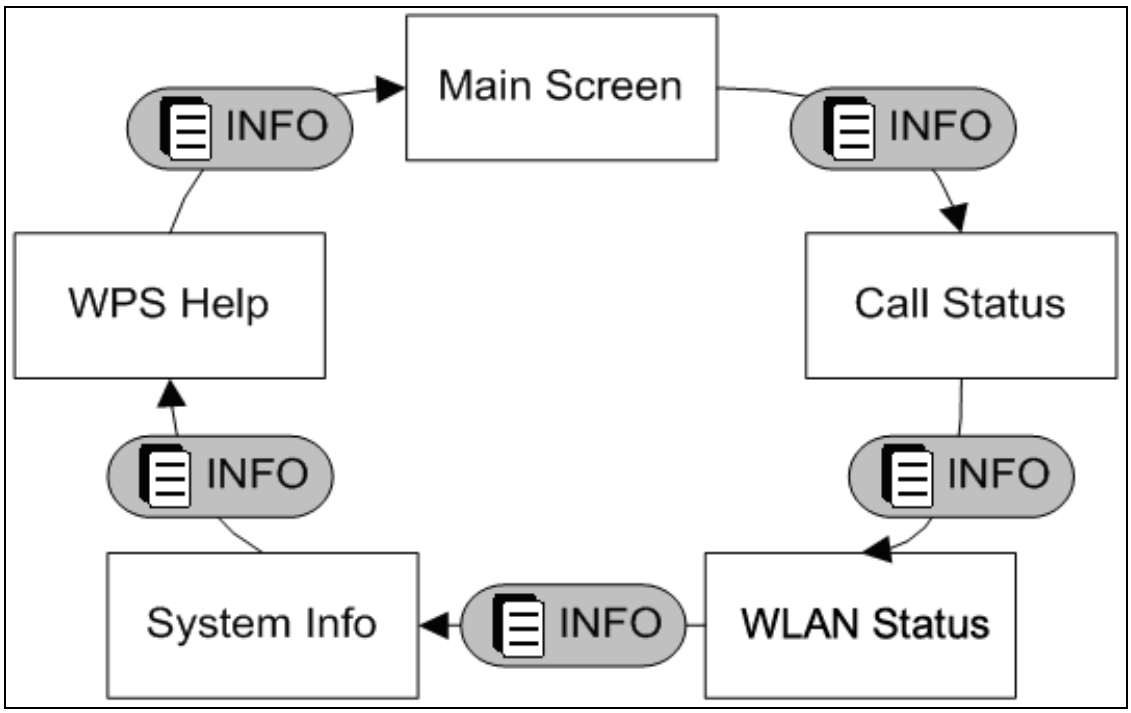
The Roaming icon indicates the whether the roaming connection feature is enabled or disabled.

The Battery icon indicates the current battery level and whether the battery is charging or not charging.

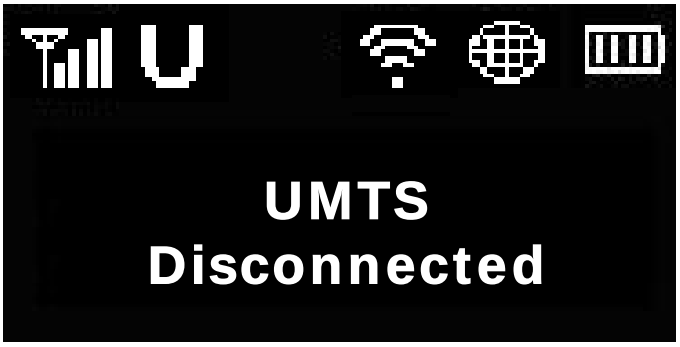
## *Viewing Device Information*

From the Main Screen, the user can press the to view the device status in more detail.

**Flow Diagram:**




As indicated by the flow diagram, pressing the cycles through each screen. For example, starting from the Main Screen, if the user presses the twice, the WLAN Status screen is displayed on the screen.




The **Call Status** screen displays the radio access technology of current data call and the status of the call.

The **WLAN Status** screen displays detailed information on the PR-30 WLAN Router's network.

The top line displays the SSID of the network. By default, the SSID is "BR + last 6 digits of the router's MAC address". To change the SSID, see "WLAN", p.24.

The bottom line displays the number of clients, in parenthesis, currently connected to the network. The PR-30 WLAN Routers can support up to a maximum of **5** simultaneous users on the network.

The **System Info** screen displays information on the firmware and 3G module in the device.

The current firmware version is on the bottom line. To update the firmware, see "Upgrade", p. 30.

The module firmware version is on the top line.

The **WPS Help** screen provides hints on how to activate the WPS Feature on the PR-30 WLAN Router.

## *Enabling WLAN*

The  toggles WLAN functionality on the device.

To disable WLAN, short press the .
To enable WLAN, short press the  again.

## *Enabling WPS*

WPS is a standard designed to easily setup and automatically configure secure WLAN networks between two WPS supported devices. If the client PC supports WPS, the WPS feature can be a user-friendly and simple process to get your WLAN network up and running.

1. Enable WLAN.

2. Press and hold the  for at least 5 seconds. **WPS: Connecting Device.** is displayed.

3. Confirm the WPS option on the client PC trying to connect to the PR-30. **WPS connecting device** followed by **New device connected** is displayed. If you do not confirm the WPS connection within 120 seconds, **No Device found** is displayed and you must begin the process again.

When WPS is enabled, the screen automatically reverts to the WLAN Status screen after a period of inactivity when WPS is enabled.

## *Notifications*

If the firmware version on the PR-30 is being updated via the Web interface, the screen informs the user of the process.

If the user has enabled the PIN security protection on the SIM card, the screen directs the user to access **Advanced > PIN Management** via the web interface before proceeding to use the Internet connectivity features of the PR-30.

## Battery information

The PR-30 is designed with power saving features to maximize battery life. The device enters boot mode when the battery is nearly depleted.

| Power State | Wireless Feature | System |
|---|---|---|
| Nominal > Battery Level 0 | 3G connectivity available<br><br>WLAN available | Normal screen activity |
| Boot mode < Battery Level 0 | 3G connectivity unavailable<br><br>WLAN deactivated | Screen displays "Empty Battery". If the device is connected to a power source , "In charging" is displayed. |

- **Note:** The safe temperature range for discharging and charging the battery is as follows:
  - Charging temperature: 0~40 degrees Celsius, maximum 45 degrees Celsius; once temperature exceeds 45 degrees the device will stop charging.

**Warning:** When using in normal temperature environments, high battery power consumption may cause the battery temperature to exceed 45 degrees and thus stop charging if connected to a wall outlet. It is not recommended to charge and use the device at the same time.

Discharging (operating) temperature: 20~60 degrees Celsius, maximum 75 degrees Celsius; once temperature exceeds 70 degrees the device will power off.

# PR-30 Series Management

## Accessing the Device

The PR-30 WLAN Router uses the web-based interface for managing and configuring wireless network settings. To access the interface, open a browser such as Internet Explorer and enter the router's default IP in the browser's address bar. Use the appropriate IP depending on the connection method.

| Connection method | Default IP |
|---|---|
| USB | 192.168.21.1 |
| WLAN | 192.168.100.1 |

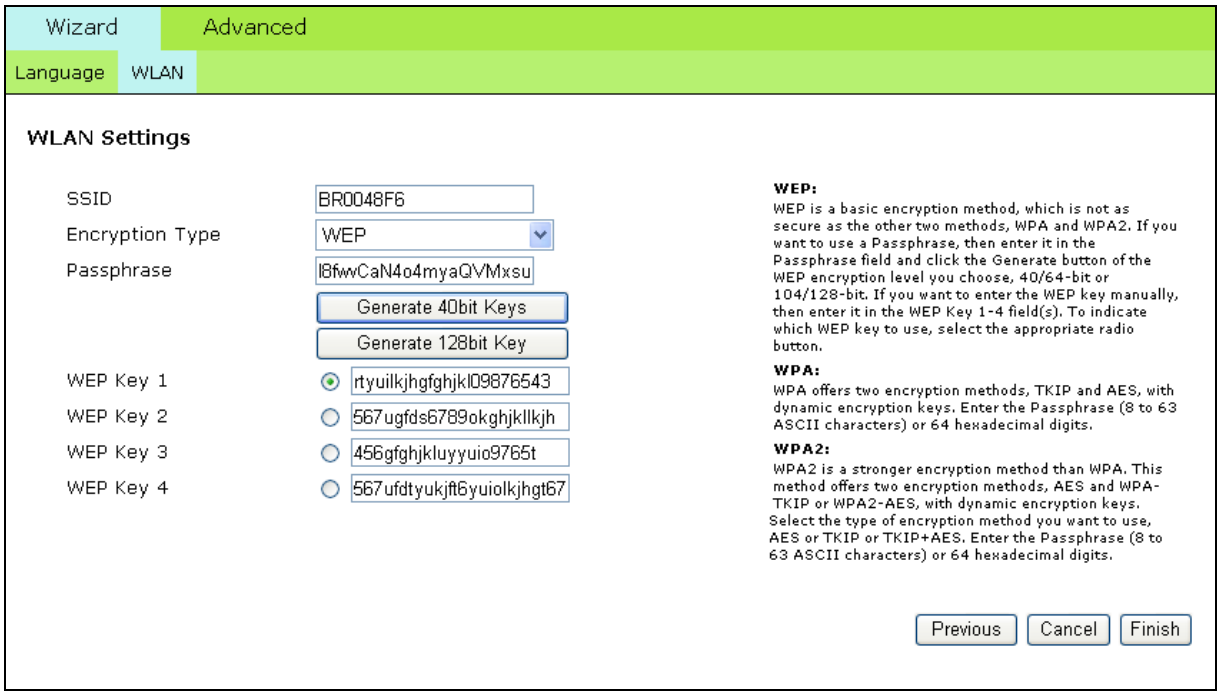
When the login window appears, enter the default username, **root**, and default password, **1234**.

# Wizard Setup

Users can use the Wizard Setup to select language options and quickly configure WLAN network settings. If the router is using the factory default settings, the Wizard Setup is the first page to welcome the user when logging into the web interface.

To set the preferred web interface display language, select from the drop-down menu or the country flags displayed.

To continue setup, click **Next**.


Wizard
Advanced
Language
WLAN
WLAN Settings
SSID
BR0048F6
Encryption Type
WEP
Passphrase
l8fwvCaN4o4myaQVMxsu
Generate 40bit Keys
Generate 128bit Key
WEP Key 1
rtyuilkjhgfghjkl09876543
WEP Key 2
567ugfds6789okghjkllkjh
WEP Key 3
456gfghjkluyyuio9765t
WEP Key 4
567ufdtyukjft6yuiolkjhgt67
WEP:
WEP is a basic encryption method, which is not as secure as the other two methods, WPA and WPA2. If you want to use a Passphrase, then enter it in the Passphrase field and click the Generate button of the WEP encryption level you choose, 40/64-bit or 104/128-bit. If you want to enter the WEP key manually, then enter it in the WEP Key 1-4 field(s). To indicate which WEP key to use, select the appropriate radio button.
WPA:
WPA offers two encryption methods, TKIP and AES, with dynamic encryption keys. Enter the Passphrase (8 to 63 ASCII characters) or 64 hexadecimal digits.
WPA2:
WPA2 is a stronger encryption method than WPA. This method offers two encryption methods, AES and WPA-TKIP or WPA2-AES, with dynamic encryption keys. Select the type of encryption method you want to use, AES or TKIP or TKIP+AES. Enter the Passphrase (8 to 63 ASCII characters) or 64 hexadecimal digits.
Previous
Cancel
Finish

The WLAN tab allows you to quickly configure your WLAN network.

- **Note:** You may be required to reconnect to the router if you change these settings from the factory default.

**SSID** Network name of your WLAN network. It is case sensitive and can not exceed 14 characters. Default name is printed on the network information card.

**Encryption Type** Method of encryption used when transferring data through the airwaves from the router to the client PC or vice versa. The PR-30 WLAN Router supports 3 encryption types - **WEP**, **WPA**, and **WPA+WPA2**.

WPA is a WLAN standard that was designed to improve the security features of WEP. WPA2 is a more advanced, more secure version of WPA.

**Passphrase** (WEP only) Sequence of words or text used to automatically generate a WEP Key. Enter a value between 8-63 characters.

**WEP Key 1-4** (WEP only) Key required to decipher the data encryption method. At least one key must be entered. Use a pre-existing passphrase by selecting **Generate 40bit Key** or **Generate 128bit Key** or manually

enter a WEP Key (letters from A-F and numbers 0-9). 40-bit WEP Keys require 10 hexadecimal digits and 128-bit WEP Keys require 26 hexadecimal digits.

**WPA Pre-Shared Key** (WPA and WPA+WPA2) Key required to decipher the data encryption method. Enter a value between 8-63 characters. This field must not be left blank.

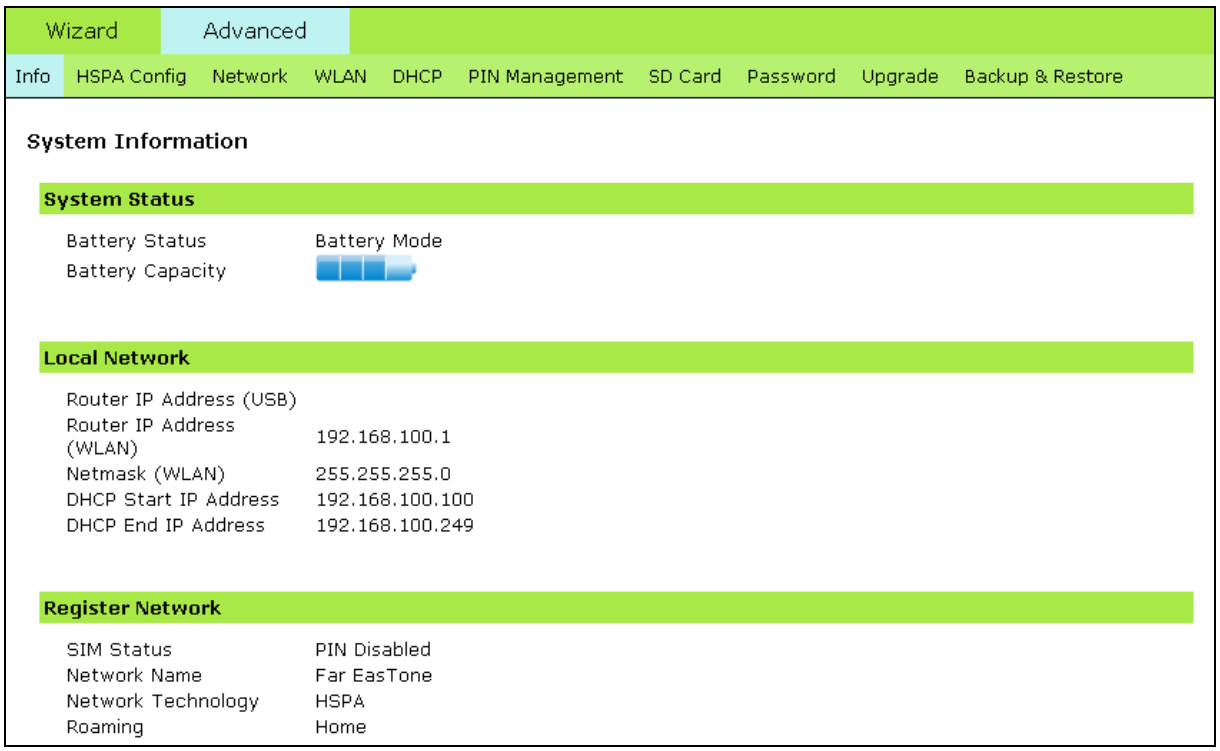
To complete setup, click **Finish**.

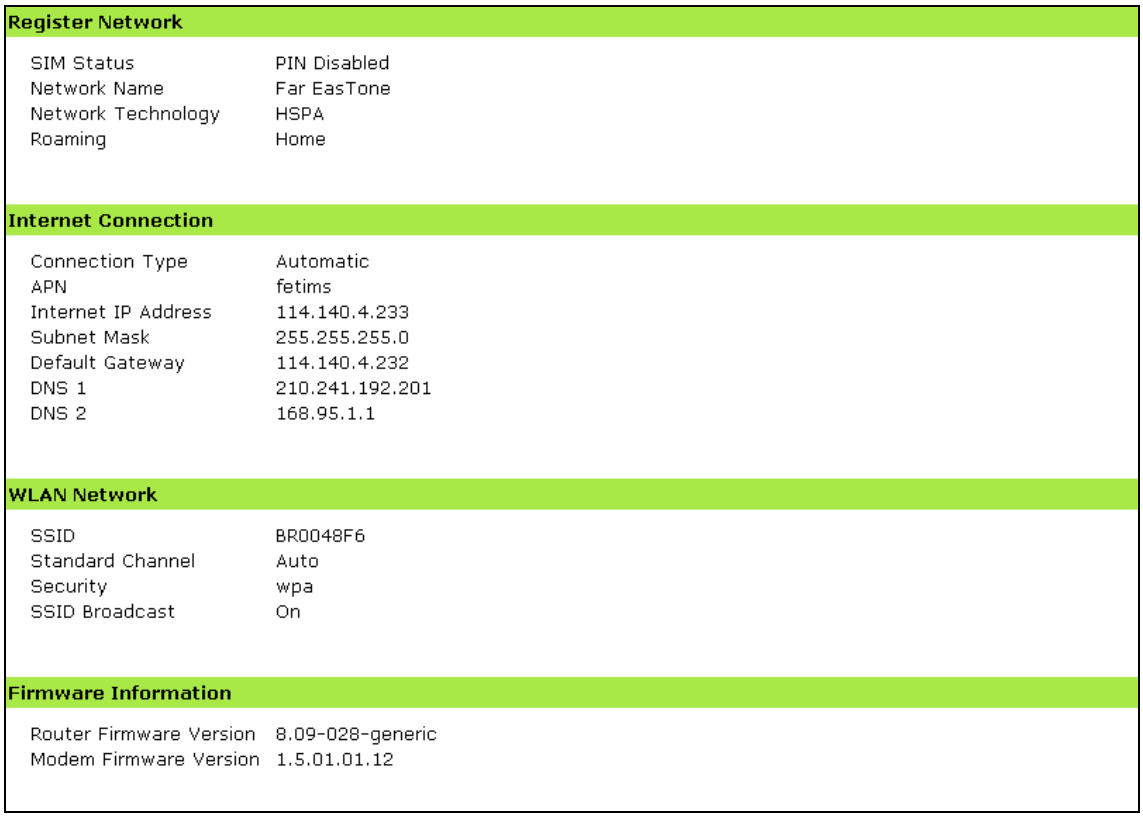
# Advanced

The **Advanced** Tab gives the user more flexibility and control for managing the PR-30 WLAN Router.

## *Info*

This tab displays a summary on the current status of the device.






**System Status** Displays the current state of the battery.

**Local Network** Displays the router's current IP and DHCP IP range. To modify this entry, see "Network", p. 23.

**Register Network** Displays information on the user's mobile subscription service.

**Internet Connection** Displays information on the current Internet connection (if connected). To modify this entry, see "HSPA Config", p. 21.

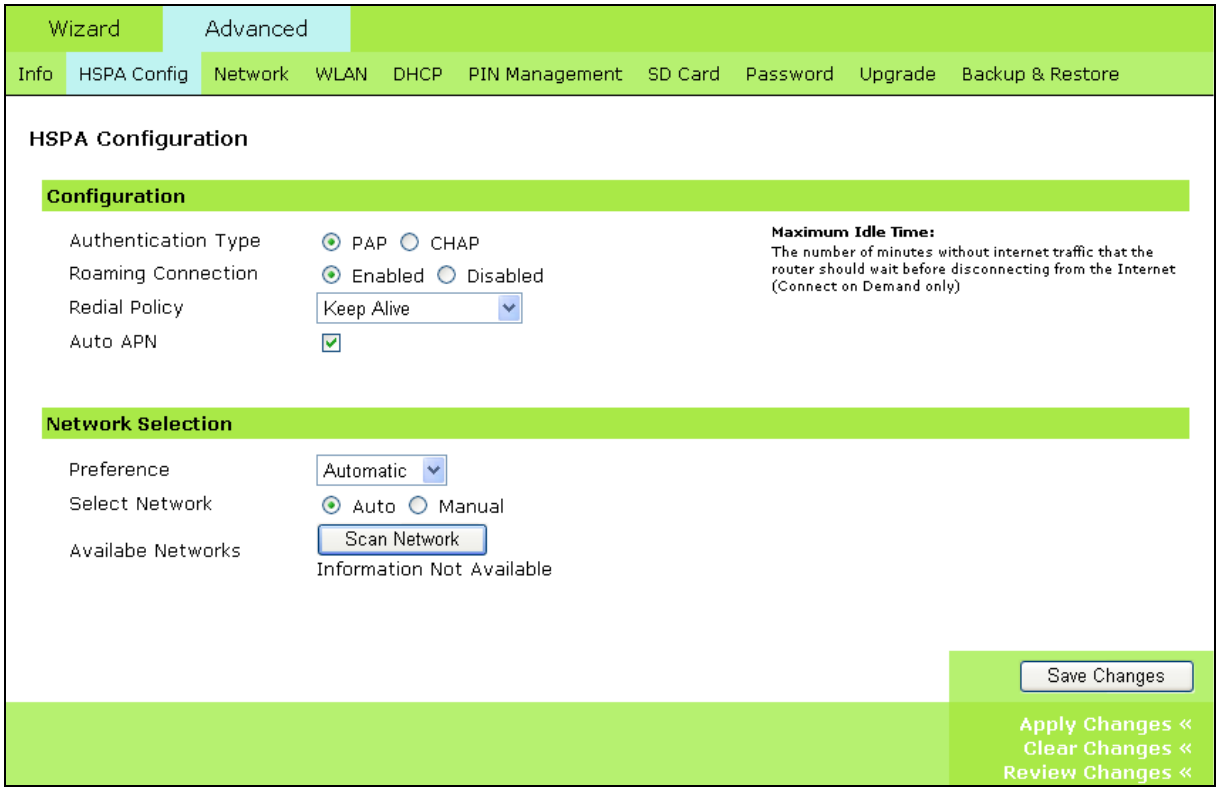
**WLAN Network** Displays information on the WLAN. To modify this entry, see "WLAN", p. 24.

**Firmware Information** Displays version numbers for the firmware. To update the firmware, see "Upgrade", p. 30.

To refresh these entries, reload your browser page.

## *HSPA Config*

This tab allows you to change device settings related to the packet data network for mobile technologies.




**Preference** Allows you to change the sequential order of the mobile technology in which the device attempts to connect.

**Authentication Type** The type of authentication used to connect to the mobile data network. Contact your network mobile operator for details.

**Roaming** A feature of wireless telecommunication systems which allows the mobile subscriber to use network services outside his/her home mobile network, i.e. from one network provider to another.

- **Note:** Rates for roaming can be very high. Contact your mobile network operator for rates and more information.

**Redial Policy** Select from the drop-down menu how often the device connects to the Internet. **Connect on Demand** connects to the Internet at user's request. The connection automatically disconnects after the idle time expires and reconnects when uplink data is to be sent. **Keep Alive** maintains an active Internet connection. If the connection is interrupted, the router attempts to reconnect. Default option is **Keep Alive**.

**Maximum Idle Time** Select a maximum idle time (in minutes) during which the Internet connection is maintained during inactivity. Not applicable on **Keep Alive** connections. Default value is **3 mins**.

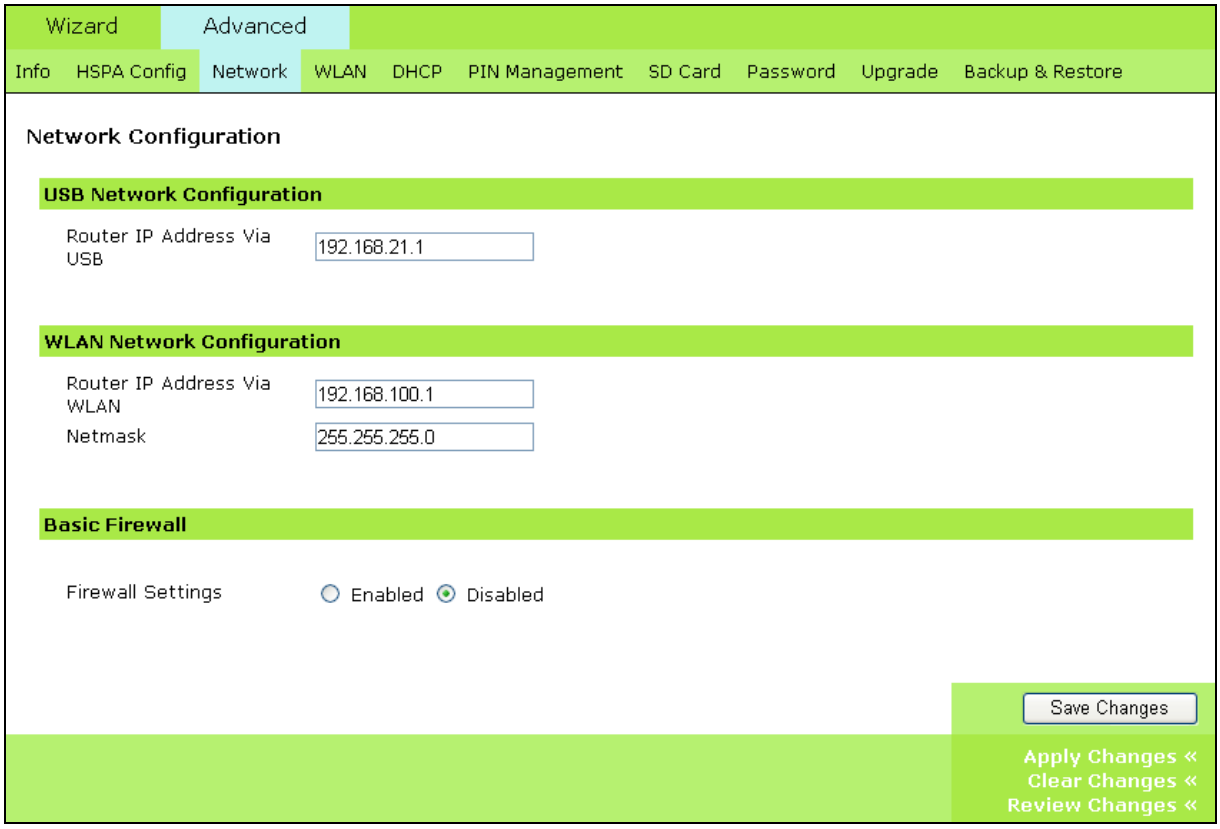
**Auto APN** The APN (Access Point Name) is provided by your mobile network operator. You can choose to set the APN automatically or manually. In most cases, it is recommended to check this option.

To set the APN manually, select your mobile network operator from the **Profile** drop down box. The PR-30 automatically detects the operator(s) in your area. Contact your operator for the **APN**, **Username** and **Password**.

To preserve the changes you have made, click **Save Changes**. To apply the saved changes, click **Apply Changes**. To abort the changes, click **Clear Changes**.

## *Network*

This tab allows you to change the local area network settings of the device. For wireless settings, see "WLAN", p. 24.




***Configuration*** The Router's IP address and subnet mask which is seen

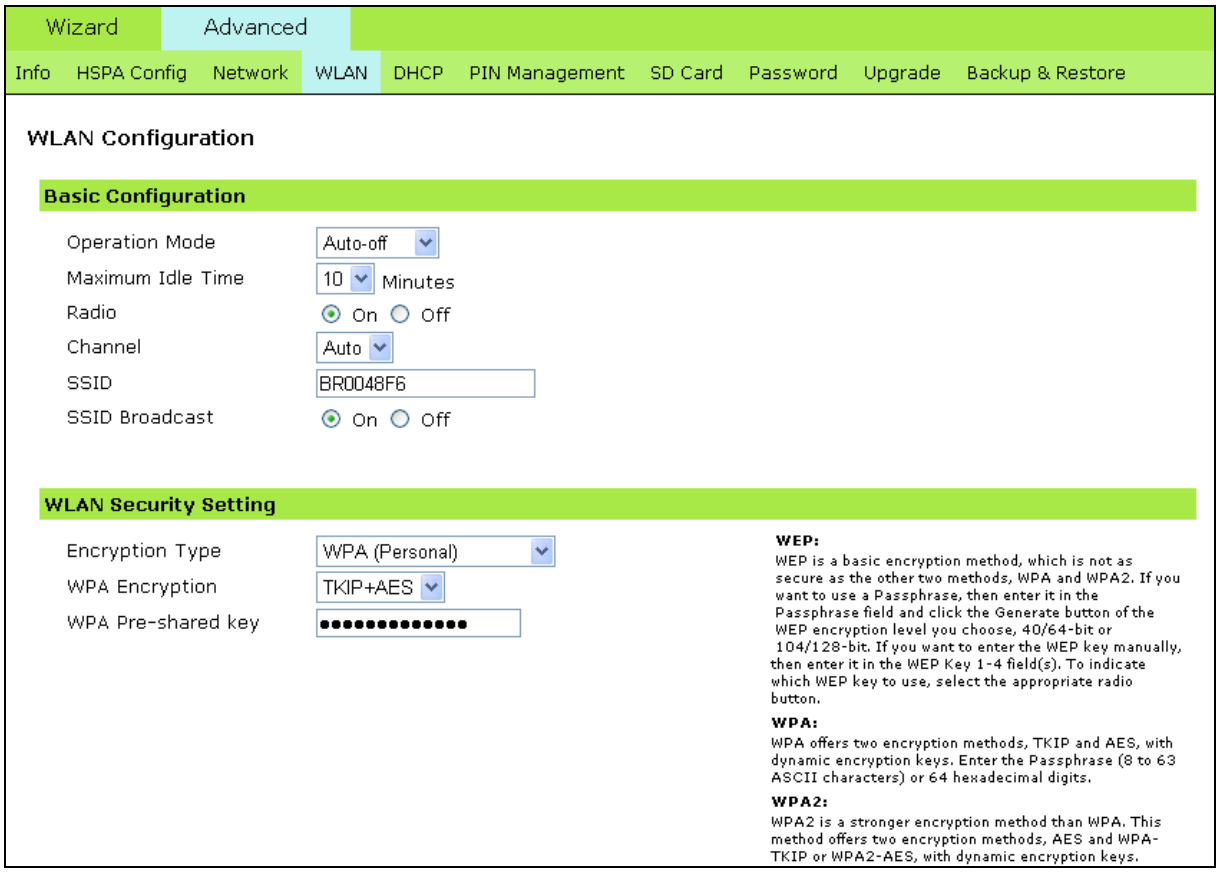
in your local network. The default IP address via USB is 192.168.21.1, default IP address via WLAN is 192.168.100.1 and the default Subnet is 255.255.255.0. The Default Gateway is optional.

***Basic Firewall*** Select to enable or disable the router's built-in firewall feature.

To preserve the changes you have made, click **Save Changes**. To apply the saved changes, click **Apply Changes**. To abort the changes, click **Clear Changes**.

## *WLAN*

This tab allows the user to change the router's wireless settings.


Wizard
Advanced
Info
HSPA Config
Network
WLAN
DHCP
PIN Management
SD Card
Password
Upgrade
Backup & Restore
WLAN Configuration
Basic Configuration
Operation Mode
Auto-off
Maximum Idle Time
10
Minutes
Radio
On
Off
Channel
Auto
SSID
BR0048F6
SSID Broadcast
On
Off
WLAN Security Setting
Encryption Type
WPA (Personal)
WPA Encryption
TKIP+AES
WPA Pre-shared key
WEP:
WEP is a basic encryption method, which is not as secure as the other two methods, WPA and WPA2. If you want to use a Passphrase, then enter it in the Passphrase field and click the Generate button of the WEP encryption level you choose, 40/64-bit or 104/128-bit. If you want to enter the WEP key manually, then enter it in the WEP Key 1-4 field(s). To indicate which WEP key to use, select the appropriate radio button.
WPA:
WPA offers two encryption methods, TKIP and AES, with dynamic encryption keys. Enter the Passphrase (8 to 63 ASCII characters) or 64 hexadecimal digits.
WPA2:
WPA2 is a stronger encryption method than WPA. This method offers two encryption methods, AES and WPA-TKIP or WPA2-AES, with dynamic encryption keys.

### *Basic Configuration*

**Operation Mode** Select the device's WLAN function mode. **Auto-off**

disables WLAN functions if no clients are connected after the **Idle Time** expires (enter Dose mode). **Manual-off** maintains an active WLAN network regardless of the number of clients. The takes precedence over this feature to enable or to disable WLAN. Default value is **Auto-Off**.

Dose mode: Main screen will display “sleep zzz” and press or to wake it up then press to enable WLAN.

**Maximum Idle Time** Select from the drop-down menu the maximum idle time (in minutes) the WLAN network is active in search of clients. Not applicable on **Manual-off** connections. Default value is 10 mins.

**Radio** Select to enable or disable the WLAN antenna. By selecting the **Off** option, you disable WLAN functions. Select **On** to re-enable. If you have selected the **Off** option when connected via WLAN, use the USB cable to regain access to the web interface. This option does not affect the Internet connection.

**Channel** The radio channel number. The permissible channels depend on the regulatory domain (e.g. in the USA, it is 1 to 11). Select **Auto** to automatically use a permissible channel.

**SSID** Network name of your WLAN network. It is case sensitive and can not exceed 14 characters. Default name is printed on the network information card..

**SSID Broadcast** Option to broadcast your WLAN network name. For security purposes, you may choose to hide your network’s SSID by selecting **Off**. This prevents other PCs scanning for the presence of wireless networks to detect your network name.

***WLAN Security Setting***

**Encryption Type** Method of encryption used when transferring data through the airwaves from the router to the client PC or vice versa. The PR-30 WLAN Router supports 3 encryption types - **WEP**, **WPA**, and **WPA+WPA2**.

The router supports two WEP (Wired Equivalent Privacy) standards: 64-bit (40-bit Key) and 104-bit (128-bit Key).

WPA is a WLAN standard that was designed to improve the security

features of WEP. WPA2 is a more advanced, more secure version of WPA.

**Passphrase** (WEP only) Sequence of words or text used to automatically generate WEP Key. Enter a value between 8-63 characters.

**WEP Key 1-4** (WEP only) Key required to decipher the data encryption method. At least one key must be entered. Use a pre-existing passphrase by selecting **Generate 40bit Key** or **Generate 128bit Key** or manually enter a WEP Key (letters from A-F and numbers 0-9). 40-bit WEP Keys require 10 hexadecimal digits and 128-bit WEP Keys require 26 hexadecimal digits.

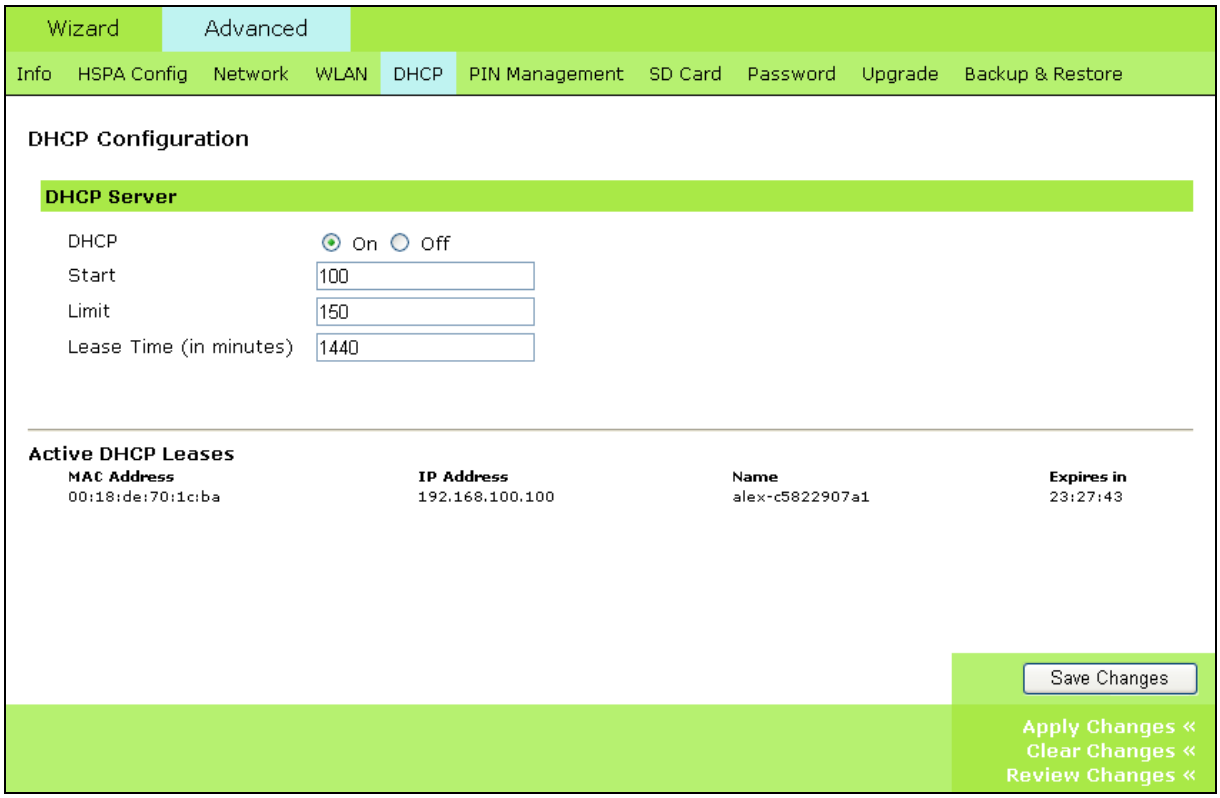
**WPA Pre-Shared Key** (WPA and WPA+WPA2) Key required to decipher the data encryption method. Enter a value between 8-63 characters. This field must not be left blank.

- **Note:** Modifying and saving these settings interrupts your current connection and requires you to reconnect to the router.

To preserve the changes you have made, click **Save Changes**. To apply the saved changes, click **Apply Changes**. To abort the changes, click **Clear Changes**.

## *DHCP*

This tab allows the user to change the Dynamic Host Control Protocol (DHCP) settings on the router.




### *LAN DHCP*

**DHCP** Option enables the router as a DCHP server. A DHCP Server automatically assigns an IP address to the computers on the LAN/private network.

**Start** Enter the starting IP address for the DHCP server's IP assignment range.

**Limit** Enter the total number of IP addresses which are assigned by the DHCP server.

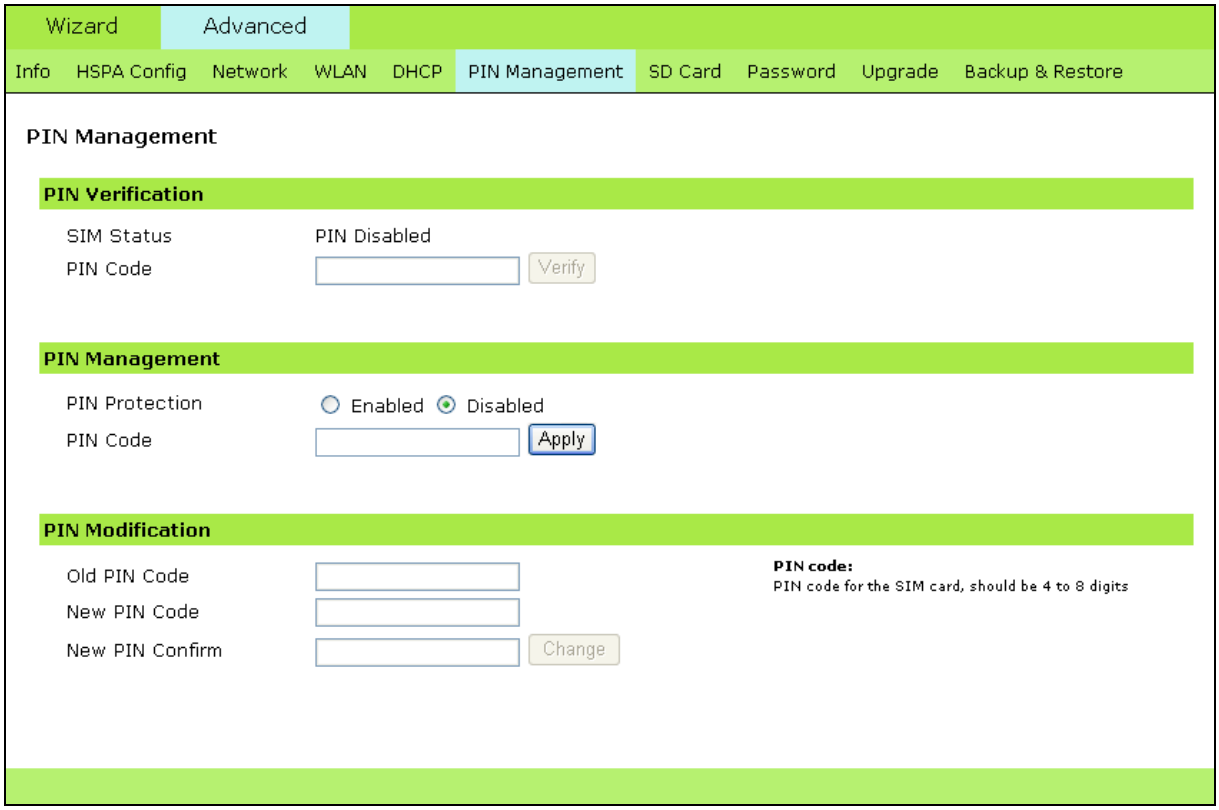
**Lease Time (in minutes)** The IP address lease time period. Enter the lease time in minutes.

**Active DHCP Leases** Displays information on any clients currently connected to the network.

To preserve the changes you have made, click **Save Changes**. To abort the changes, click **Clear Changes**.

# *PIN Management*

This tab allows the user to manage U/SIM card settings to use with the PR-30.




### *PIN Verification*

**SIM Status** If you have enabled the PIN security protection on the SIM card, this entry displays **PIN Enabled**. Conversely, if you do not have PIN security enabled on your SIM card, this entry displays **PIN Disabled**.

**PIN Code** If your SIM card PIN security protection is enabled, you must enter the PIN code for verification. Enter the code in the PIN Code field, and click **Verify**.

### *PIN Management*

You can enable or disable the PIN security protection on your SIM card. Select **Enabled** or **Disabled**. If you change the status of the PIN protection your SIM card, you must enter the PIN code.

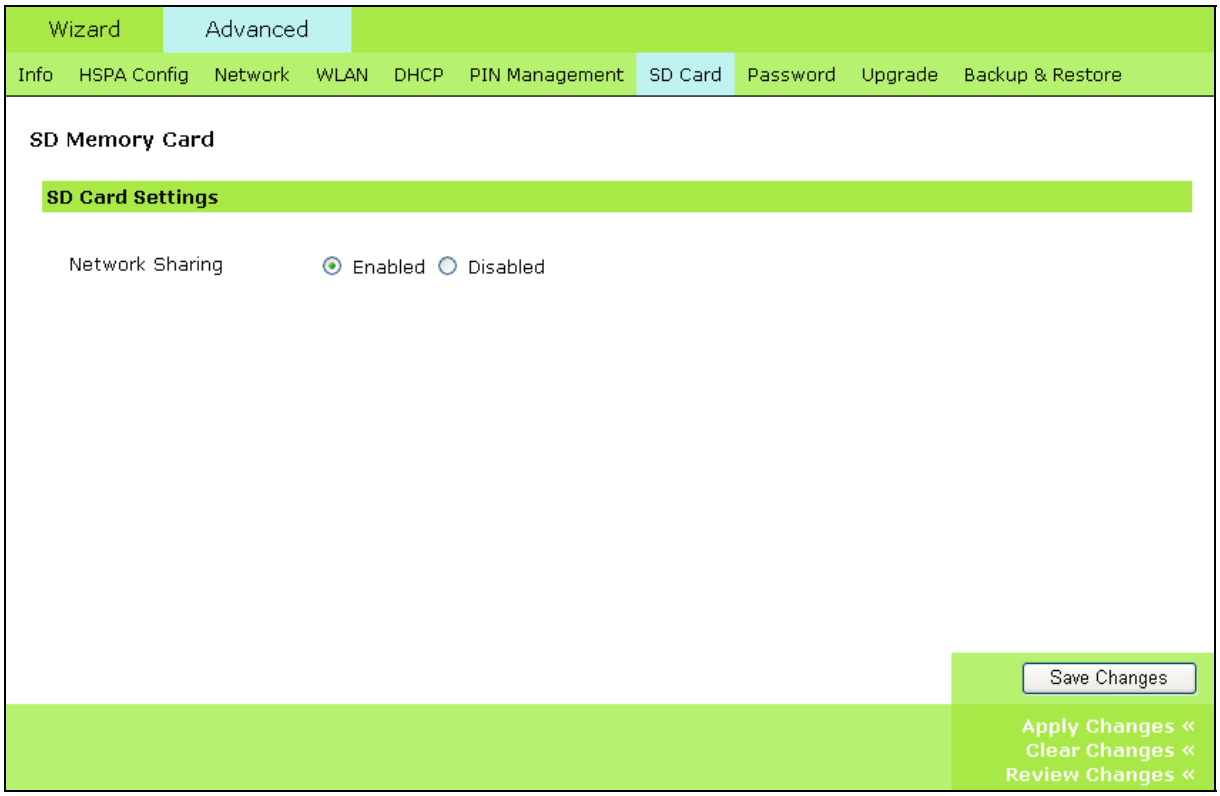
### *PIN Modification*

You can change the PIN code on the SIM card. Enter your original PIN code in the **Old PIN Code** field, enter the new PIN code in the **New PIN Code** field and the **New PIN Confirm** field, and click **Change**.

To preserve the changes you have made, click **Save Changes**. To abort the changes, click **Clear Changes**.

## *SD Card*

This tab allows the user to change settings on the PR-30 for the microSD card.

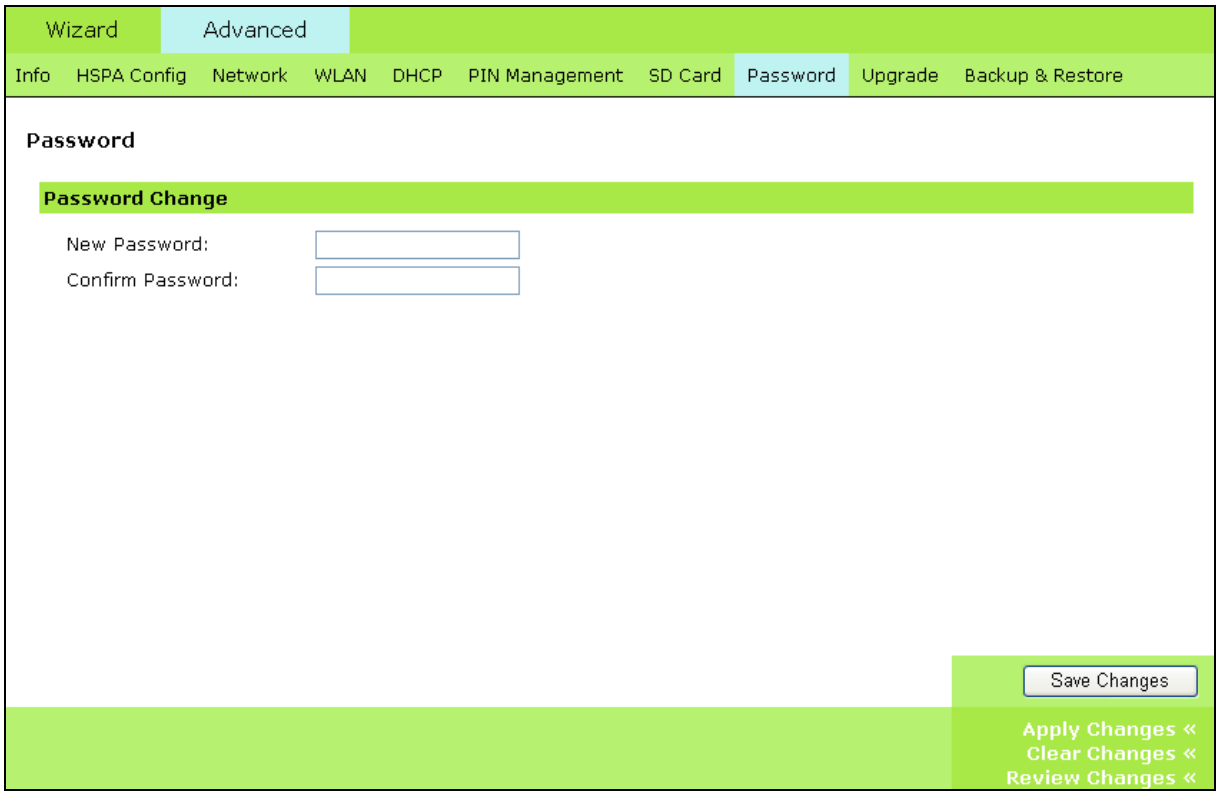



**Network Sharing** Select to **Enable** or **Disable** file sharing on the microSD card when the device is in router mode.

To preserve the changes you have made, click **Save Changes**. To abort the changes, click **Clear Changes**.

## *Password*

This tab allows the user to change the web interface login password.

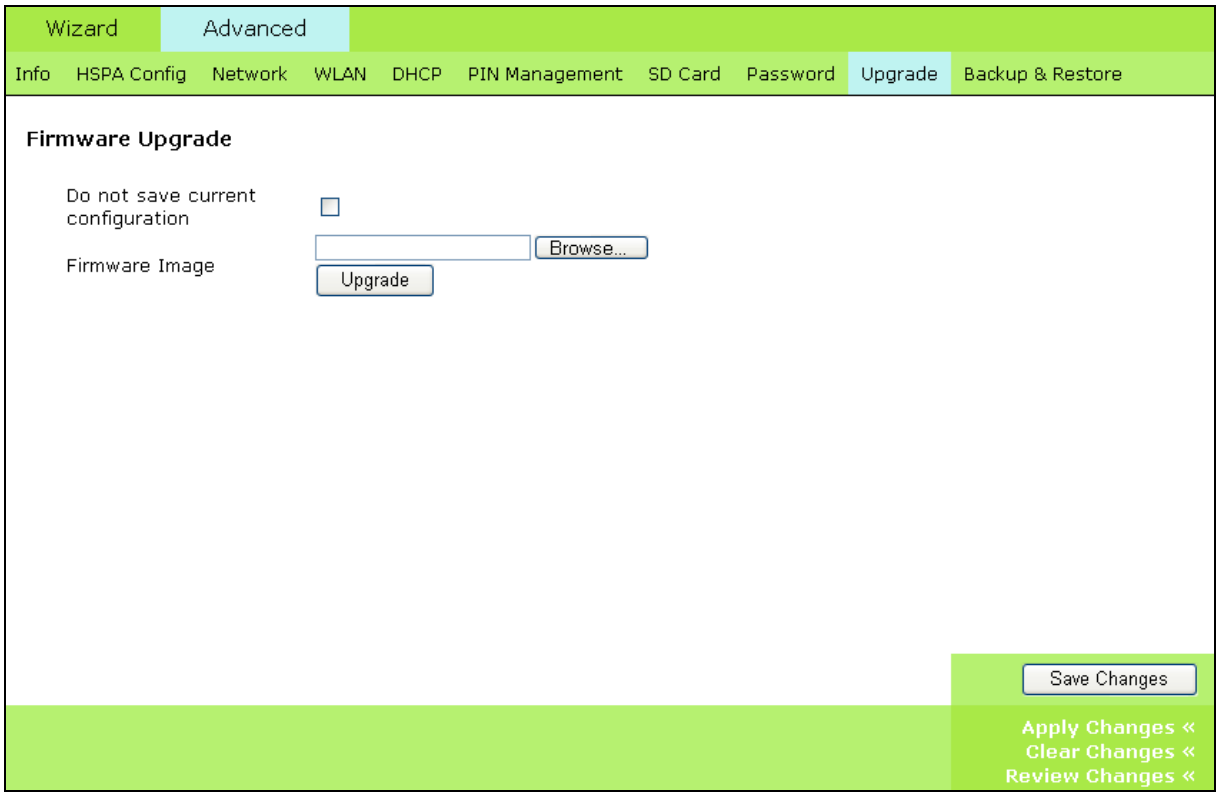



Enter the new password in **New Password** and in **Confirm Password**. The password in both fields must match in order to successfully change the password.

To preserve the changes you have made, click **Save Changes**. To abort the changes, click **Clear Changes**.

## *Upgrade*

This tab allows the user to upgrade the firmware of the router.




Check **Do not save current configuration** if you do not want to save the current configuration before upgrading the firmware.

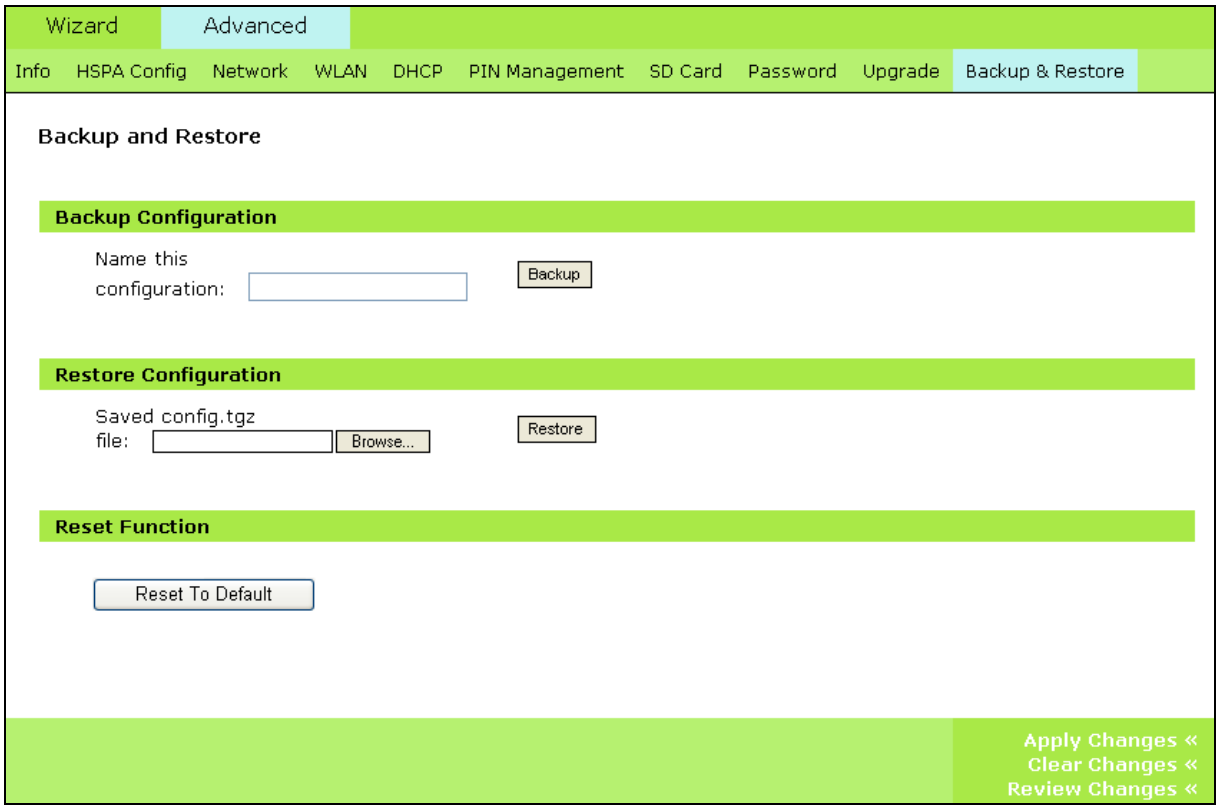
To upgrade the device's firmware version, click **Browse** to locate the new firmware version. Click **Upgrade** to being the upgrade process.

**Warning:** Firmware upgrades may take a few minutes; do not turn off the power or reset the device during upgrade. Do so may render the device inoperable.

To preserve the changes you have made, click **Save Changes**. To abort the changes, click **Clear Changes**.

## *Backup & Restore*

This tab allows the user to manage the device’s configuration settings.




**Backup Configuration** Use this option to back up the router's current configuration settings to the PC. Enter a file name for configuration file and click **Backup**.

**Restore Configuration** Use this option to restore the router's configuration settings from a backup file. Click **Browse** to locate the configuration file and click **Restore**.

To preserve the changes you have made, click **Save Changes**. To abort the changes, click **Clear Changes**.

# File Sharing

If a microSD card is installed, the card functions as a common storage space which is shared between the PCs connected to the PR-30's WLAN network.

1. Enable WLAN on the device.

2. Connect to the device's WLAN network on the client PC.

3. Open My Computer and type \\192.168.100.1. A folder "PR_SD_Shared" is displayed.

4. Copy files you wish to share with the network into the folder, or copy files others have shared with you from the folder.

# *Appendices*

## Appendix A: FAQ

Q: What is the default “Username” and “Password” for the router?
A: User name: root
Password: 1234

Q: How do I enter the web interface?
A: 1. Open Internet Explorer or any Web browser.
2. Input “http://192.168.21.1” (via USB) in the address bar.
3. Input username and password.

Q: How do I use WPS to setup a connection?
A: 1. Press and hold the for at least 5 sec.
2. Accept the WPS option on PC requesting connection.

Q: How do I configure settings for the router?
A: 1. Use the **Wizard** Setup.
2. Modify the settings under the **Advanced** tabs.

Q: Why can’t I connect to the Internet via built-in 3G module?
A: 1. Check if the SIM/USIM is inserted properly.
2. Check if the correct network operator name and network technology is displayed on the LCD.
3. Check the SIM/USIM status under **Advanced > Pin Management**.
4. Check if the APN is correct under **Advanced > HSPAConfig**
5. Check the Internet on GUI if the Connection is “Keep Alive” or not.

## Appendix B: Specifications

**Note: Specifications are subject to change without notice.**

| **Physical** | |
|---|---|
| WLAN | 802.11 b/g with 1x1 antenna design (no diversity).<br>Coverage : 10m |
| Cellular modem | Embedded,<br>GPRS/EDGE/WCDMA/HSPA/HSPA+ |
| Dimension (LxWxH, mm) | 105 x 66 x 14.8 |

| | |
|---|---|
| Weight (g) | 135g |
| **Interface** | |
| USB interface for PC connection | Connect via RNDIS / CDC-ECM drivers |
| LCD Display | 1" |
| Power Switch | Yes<br>Power on/ off: long press<br>Wake-up(LCD on): short press<br>Reset to Default: Power + for 10 seconds |
| | Yes<br>Short press (<5s), trigger LCD display while in sleep mode<br>Long press (>5s), setup with WPS |
| Built-in Battery | 2,200 mAH |
| Power supply plug | Yes<br>Charging via USB (Micro-USB) |
| SIM slot | Yes, hidden under battery |
| MicroSD slot | Yes, support up to 16 Gbytes, hidden under battery. |
| **Connectivity and Data Speed** | |
| GSM Band | 850/900/1800/1900 MHz |
| UMTS/HSPA+ Band | 2100/900 MHz |
| HSPA+ Data Rate | Downlink: up to 21Mbps, Uplink: up to 5.7Mbps |
| EDGE/GPRS | class B, multislot class 12 |
| WLAN | 802.11b/g |
| **Antenna** | |
| WLAN Antenna | Embedded |
| Cellular Embedded Antenna | Yes |
| Receive Diversity Antenna | embedded antenna, support for 2100MHz |
| Cellular External Antenna Port | Yes |
| **Protocol** | |
| UMTS/HSPA connection | Connection On Demand, Connection when available, Auto APN matching with USIM |
| Security | Multiple VPN pass-through (IPSec, PPTP, L2TP), Internet access restriction, Firewall, DoS Prevention, Event Logging |
| NAT-NAPT | Port forwarding, Port triggering,Multicast Pass-Through, QoS |
| DNS | DNS Agent |
| ALG Support | Yahoo messenger, AOL messenger, MSN messenger, ICQ, RealAudio, NetMeeting, Telnet, FTP, Microsoft Traceroute, Quake, IRC, Microsoft PPTP Client |
| Other Features | IPv4, TCP, UDP, ICMPv4, ARP, DHCP |

| | |
|---|---|
| | Server/Client, HTTPs, NTP |
| Browser-based Administration GUI | Web-based Setup Wizard in GUI.<br>Browser supported: IE, Firefox, Safari |
| Browser-based Administration GUI Language Support | English |
| **Wireless LAN** | |
| 802.11b data rate | 1/2/5.5/11 Mbps, Auto or Fixed Rate |
| 802.11g data rate | 1/2/5.5/11/6/9/12/18/24/36/48/54 Mbps, Auto or Fixed Rate |
| Security | WPA2/WPA/AES/TKIP, WPA/WPA2 PSK mode, None/64/128 bits WEP Encryption, MAC filter, open system and shared key authentication, SSID Broadcast Disable |
| WPS | Yes |
| Other Features | Support up to 5 simultaneous wireless users |
| **Accessories** | |
| AC adapter | with Micro-USB head<br>Supported, Input - 100~240V 50~60Hz, output – 5V, 2A |
| Battery | High capacity re-chargeable Li-ion battery, DC 3.7V, 2200mAH |
| **Environment** | |
| Operation Temperature | 0°C to 40°C |
| Storage Temperature | -20°C to 60°C |
| Operating Humidity | 10% to 80% Non-Condensing |
| Storage Humidity | 5% to 90% Non-Condensing |
| **Certification & Conformance** | |
| | CE |
| | GCF |
| | RoHS/WEEE |

# Appendix C: Important Safety Information

## *Europe – EU Declaration of Conformity*

CE

**European Union Notice**
Products with CE marking comply with the R&TTE Directive (99/5/EC), the EMC Directive (2004/108/EC), and the Low Voltage Directive (2006/95/EC) issued by the Commission of the European Community.
Compliance with these directives implies conformity to the following European Norms (in parentheses are the equivalent international standards).

**EN 60950-1 (IEC 60950-1)**
Safety of Information Technology Equipment.

**EN 300 328**
Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; data transmission equipment operating in the 2.4 GHz ISM band and using spread spectrum modulation techniques.

**EN 301 489-24**
Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 24: Specific conditions for IMT-2000 CDMA direct spread (UTRA) for mobile and portable (UE) radio and ancillary equipment.

**ETSI EN 301 511**
Global system for mobile communications (GSM); Harmonised EN for mobile stations in the GSM 900 and GSM 1800 bands, covering essential requirements of article 3.2 of the R&TTE directive (1995/5/EC).

**ETSI EN 301 489-1**
Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements.

**ETSI EN 301 489-7**
Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS).

**ETSI EN 301 489-17**
Electromagnetic compatibility and Radio spectrum Matters (ERM);

Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2.4 GHz wideband transmission systems.

**ETSI EN 301 908-1 & -2**
Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third Generation cellular networks; Part 1: Harmonised EN for IMT-2000, introduction and common requirements, covering essential requirements of article 3.2 of the R&TTE Directive.

**EN 50385**
Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110 MHz - 40 GHz) - General public.

## *GCF*

## *RoHS/WEEE*

# Glossary

**2G:** Second-generation mobile networking technology. Represents a switchover from analog to digital; most 2G networks use GSM.

**3G:** Third-generation mobile networking technology that enables simultaneous transfer of voice and non-voice data; most 3G networks use WCDMA.

**3.5G:** A more recent standard of mobile networking technology; generally uses HSDPA.

**3.75G:** A more recent standard of mobile networking technology; generally uses HSUPA.

**APN (Access Point Name/Network):** Provides GPRS routing information. Consists of:

Network ID: Identifies the external service requested by a GPRS user.

Mobile network operator ID: Specifies routing information.

**ARFCN (Absolute Radio Frequency Channel Number):** The specific ID numbers for all radio channels used in cellular mobile communications.

**bps (bits per second):** How data flow is measured.

**CHAP (Challenge Handshake Authentication Protocol):** CHAP identifiers are changed frequently and authentication can be requested by the server at any time.

**DNS (Domain Name System):** Helps route network traffic by making the addressing process more user-friendly.

**DHCP (Dynamic Host Configuration Protocol):** How devices obtain IP addresses from a server.

**DUN (Dial-Up Network):** Windows component that enables online access via a modem.

**EDGE (Enhanced Data GSM Environment/Enhanced Data for Global Evolution):** Advanced GPRS that delivers multimedia and other data needing greater bandwidth at up to 237 kbps.

**GPRS (General Packet Radio Service):** Delivers data in packets at up to 86 kbps.

**GSM (Global System for Mobile Communications):** The most popular cellular network, mostly operates in 850-900 or 1800-1900 MHz; the primary 2G system.

**HSDPA (High Speed Downlink Packet Access):** Advanced WCDMA that delivers downlink bandwidth intensive data at up to 7.2Mbps; typically associated with 3.5G.

**HSUPA (High Speed Uplink Packet Access):** Advanced WCDMA that delivers uplink bandwidth intensive data at up to 5.76Mbps; typically associated with 3.75G.

**HSPA+ (High Speed Packet Access +):** This is also known as HSPA Evolved, is the next step and is more focused on delivering data services enabling speeds of up to 42Mbps in the downlink and 11Mbps in the uplink.

**IMEI (International Mobile Equipment Identity):** A number unique to each GSM/UMTS device that can be used block network access by a stolen mobile device.

**IP (Internet Protocol):** Routes packets over a network.

**Kbps (Kilobits per second):** A data flow measure; 1024 bits/second.

**LAN (Local Area Network):** A data network with limited range but good bandwidth.

**Mbps (Megabits per second):** A data flow measure; 1,048,576 bits/second.

**PAP (Password Authentication Protocol):** The difference between PAP authentication and a manual or scripted login, is that PAP is not interactive. The username and password are entered in the client's dialing software and sent as one data package as soon as the modems have established a connection, rather than the server sending a login prompt and waiting for a response.

**PPP (Point-to-Point Protocol):** An internet connection method.

**PIN (Personal Identity Number):** Four to eight digital numbers SIM card security code; allows access to the carrier’s network.

**Rx:** Shorthand for Reception.

**SIM (Subscriber Identity Module):** A small card that contains key mobile device identification, subscription and contact information.

**Tx:** Shorthand for Transmission.

**WCDMA (Wideband Code Division Multiple Access):** Advanced EDGE that

supports 384kbps data flow. Most 3G networks use this standard, the same as UMTS.

**WPA:** Wi-Fi Protected Access

**WPS:** Wi-Fi Protected Setup